WHAT IS CLAIMED IS:

1   1. For use in a telecommunications network having a physical layer which

2   includes Asynchronous Transfer Mode (ATM) entities, a connection layer, and a

3   connection layer, with a separation between the call layer and the connection layer

4   whereby the call layer and the connection layer utilize differing signaling entities in the

5   physical layer, a method comprising:

6   associating binding information with connection endpoint information for a first

7   connection end point at a first end node of the network;

8   in the call layer, transmitting the binding information and an ATM end system

9   address (AESA) of the first end node to a second end node of the network;

10   reserving a second connection end point at the second end node;

11   sending a connection request from the call layer to the connection layer, the

12   connection request including the binding information and the AESA of the first end

13   node;

14   routing connection layer signaling through the connection layer to the first end

15   node;

16   at the first end node, using the binding information included in the connection

17   layer signaling to obtain the connection endpoint information for the first connection

18   end point.

1   2. The method of claim 1, further comprising the call layer obtaining the binding

2   information from the connection layer.

1   3. The method of claim 1, wherein the step of using the binding information to

2   obtain the connection endpoint information for the first connection end point involves,

3   at the first end node, transmitting the binding information to the call layer at the call

4   layer obtaining the connection endpoint information for the first connection endpoint.

1   4. The method of claim 3, further comprising the call layer ordering the

2   connection layer to through connect a switch in the physical layer of the first end node

3   in accordance with the connection endpoint information for the first connection

4   endpoint.

1   5. The method of claim 1, further comprising through connecting a switch in the

2   physical layer of the first end node in accordance with the connection endpoint

3   information for the first connection endpoint.

1   6. The method of claim 1, wherein the connection endpoint information for the

2   first connection end point at the first end node of the network is vendor specific for a

3   physical layer entity at the first end node.

1   7. The method of claim 6, wherein the connection endpoint information is a

2   concatenation of one or more of a node identifier, a hardware cabinet rack, a hardware

3   slot, a hardware port, and a resource.

1   8. For use in a telecommunications network having a physical layer which

2   includes Asynchronous Transfer Mode (ATM) entities, a connection layer, and a

3   connection layer, with a separation between the call layer and the connection layer

4   whereby the call layer and the connection layer utilize differing signaling entities in the

5   physical layer, a method comprising:

6   in the call layer, transmitting an ATM end system address (AESA) from a first

7   end node of the network to a second end node of the network, the ATM end system

8   address (AESA) being for a first connection end point at the first end node;

9   reserving a second connection end point at the second end node;

10   sending a connection request from the call layer to the connection layer, the

11   connection request including the ATM end system address (AESA) for the first

12   connection end point at the first end node;

13   routing connection layer signaling through the connection layer to the first end

14   node using the ATM end system address (AESA) for the first connection end point at

15   the first end node;

16   at the first end node, using the ATM end system address (AESA) for the first

17   connection end point at the first end node included in the connection layer signaling to

18   through connect an ATM switch in the physical layer to the first connection endpoint.

1   9. For use in a telecommunications network having a physical layer which

2   includes Asynchronous Transfer Mode (ATM) entities, a connection layer, and a

3   connection layer, with a separation between the call layer and the connection layer

4　whereby the call layer and the connection layer utilize differing signaling entities in the

5　physical layer, a method comprising:

6　　　associating a dynamic routing number both with a first end node of the network

7　and with a first connection end point at the first end node;

8　　　in the call layer, transmitting the dynamic routing number to a second end node

9　of the network;

10　　reserving a second connection end point at the second end node;

11　　sending a connection request from the call layer to the connection layer, the

12　connection request including the dynamic routing number;

13　　routing connection layer signaling through the connection layer to the first end

14　node;

15　　at the first end node, using the dynamic routing number included in the

16　connection layer signaling to obtain the first connection end point.

1　　10. The method of claim 9, wherein the routing number is an ATM end system

2　address (AESA).

1　　11. The method of claim 9, further comprising routing the connection layer

2　signaling through the connection layer to the first end node using the dynamic routing

3　number.

1　　12. The method of claim 9, further comprising through connecting a switch in

2　the physical layer of the first end node in accordance with the connection endpoint

3　information for the first connection endpoint.

1　　13. The method of claim 9, wherein the connection endpoint information for the

2　first connection end point at the first end node of the network is vendor specific for a

3　physical layer entity at the first end node.

1　　14. The method of claim 12, wherein the connection endpoint information is a

2　concatenation of one or more of a node identifier, a hardware cabinet rack, a hardware

3　slot, a hardware port, and a resource.

1　　15. For use in a telecommunications network having a physical layer which

2　includes Asynchronous Transfer Mode (ATM) entities, a connection layer, and a

3 connection layer, with a separation between the call layer and the connection layer

4 whereby the call layer and the connection layer utilize differing signaling entities in the

5 physical layer, a method comprising:

6 including connection endpoint information for a first connection end point of a

7 first end node of the network in an ATM end system address (AESA) of the first end

8 node;

9 in the call layer, transmitting the ATM end system address (AESA) of the first

10 end node to a second end node of the network;

11 reserving a second connection end point at the second end node;

12 sending a connection request from the call layer to the connection layer, the

13 connection request including the ATM end system address (AESA) of the first end

14 node;

15 routing connection layer signaling through the connection layer to the first end

16 node;

17 at the first end node, using the connection endpoint information for the first

18 connection end point of the first end node included in the ATM end system address

19 (AESA) of the first end node to through connect an ATM switch in the physical layer to

20 the first connection endpoint.

1 16. The method of claim 15, further comprising including the connection

2 endpoint information for the first connection end point of the first end node of the

3 network in a vacant field or unused field of the ATM end system address (AESA) of the

4 first end node.

1 17. The method of claim 15, wherein the connection endpoint information for

2 the first connection end point at the first end node of the network is vendor specific for

3 a physical layer entity at the first end node.

1 18. The method of claim 17, wherein the connection endpoint information is a

2 concatenation of one or more of a node identifier, a hardware cabinet rack, a hardware

3 slot, a hardware port, and a resource.

1 19. A telecommunications network including a first end node and a second end

2 node which are connected by separated call and connection layers, wherein the first end

3 node associates binding information with connection endpoint information for a first

4   connection end point at the first end node and transmits the binding information through

5   the call layer to a second end node so that, upon receipt of a connection layer signaling

6   routed from the second end node to the first end node through the connection layer, the

7   first end node uses the binding information carried in the connection layer signaling to

8   obtain the connection endpoint information for the first connection end point.

1   20. The apparatus of claim 19, further comprising a physical layer having a first

2   ATM switch at the first end node; and wherein the first node through connects the first

3   ATM switch in accordance with the connection endpoint information for the first

4   connection endpoint.

1   21. The apparatus of claim 20, further comprising a call layer process at the first

2   node which obtains the binding information from the connection layer.

1   22. The apparatus of claim 19, wherein the first end node further transmits the

2   binding information to a call layer process at the call layer to obtain the connection

3   endpoint information for the first connection endpoint.

1   23. The apparatus of claim 20, wherein the first end node orders the connection

2   layer to through connect the ATM switch in the physical layer of the first end node in

3   accordance with the connection endpoint information for the first connection endpoint.

1   24. The apparatus of claim 19, wherein the connection endpoint information for

2   the first connection end point at the first end node of the network is vendor specific for

3   a physical layer entity at the first end node.

1   25. The apparatus of claim 24, wherein the connection endpoint information is a

2   concatenation of one or more of a node identifier, a hardware cabinet rack, a hardware

3   slot, a hardware port, and a resource.

1   26. A telecommunications network including a first end node and a second end

2   node which are connected by separated call and connection layers, wherein the first end

3   node transmits an ATM end system address (AESA), the ATM end system address

4   (AESA) being for a first connection end point at the first end node, so that upon receipt

5   of connection layer signaling routed through the connection layer from the second end

6   node to the first end node using the ATM end system address (AESA) for the first

7   connection end point at the first end node, the first end node uses the the ATM end

8   system address (AESA) for the first connection end point at the first end nodeto through

9   connect an ATM switch in the physical layer to the first connection endpoint.

1   27. A telecommunications network including a first end node and a second end

2   node which are connected by separated call and connection layers, wherein the first end

3   node transmits a dynamic routing number to the second end node, the dynamic routing

4   number being associated both with the first end node of the network and with a first

5   connection end point at the first end node, so that upon receipt of connection layer

6   signaling routed through the connection layer from the second end node to the first end

7   node using the dynamic routing number, the first node also uses the dynamic routing

8   number to obtain the first connection end point.

1   28. The apparatus of claim 27, wherein the dynamic routing number is an ATM

2   end system address (AESA) for the first end node.

1   29. A telecommunications network including a first end node and a second end

2   node which are connected by separated call and connection layers, wherein the first end

3   node includes connection endpoint information for a first connection end point of the

4   first end node of the network in a routing number of the first end node; so that upon

5   receipt of connection layer signaling routed through the connection layer from the

6   second end node to the first end node using the routing number of the first end node, the

7   first node uses the connection endpoint information for the first connection end point of

8   the first end node included in the routing number of the first end node to through

9   connect a switch in the physical layer to the first connection endpoint.

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1   30. The apparatus of claim 29, wherein the connection endpoint information for

2   the first connection endpoint is included in a vacant or unused field of the ATM end

3   system address (AESA) for the first end node.